Module 4. Getting Ready for the Market

Unit 4.1 Solution Testing

4.1.1 Introduction and Overview - The Engine of Design Thinking and Innovation

Testing is usually undertaken simultaneously with the prototyping stage (see previous chapter). In design thinking, testing means generating user feedback related to the developed prototype. Letting real users interact with the prototype and observing user reactions in a real context allow an innovation team to refine the prototype based on feedback and observations. User feedback is the foundation of the design thinking process: without it, the iterative process would fail. Thus, the goal of this stage is to test ideas and solutions with real users and learn from their feedback in order to build better solutions faster.

Table 1
Cases - Testing

Case	Name	Main Stakeholder	
Case 11	Quantification of tactical football concepts	FC Barcelona (football)	Quantify tactical concepts and use AL to analyze it
Case 4, 12 & 15	Shoe Design	Nike, Adidas (div.)	Design shoe that enhances athletes´ performance
Case 6	New NBA Ball	NBA (basketball)	Learn from the failed new NBA ball experiment
Case 17	Glovo	Glovo (non-sport)	Offer a multi-category delivery service online

4.1.2 Cases

Case 11: Quantification of Tactical Football Concepts (continuation)

Context and Challenge

As outlined in the previous chapters of Case 11, the multidisciplinary innovation team has been working on quantifying different tactical concepts to facilitate the tactical analysis for analysts and coaches by leveraging AI. Therefore, they first identified tactical concepts that coaches used on a regular basis in order to create models that quantified these

concepts. Moreover, they also wanted to integrate new tactical concepts that were not used yet by the coaches but supposed to help them take better decisions on the pitch. For the former, the project team at Barça Innovation Hub (BIHUB) had to test if the developed algorithms for the central, well-accepted concepts (e.g. transition) match with the intuitive understanding of the coaches. For the latter —the completely new concepts that the BIHUB team developed themselves (e.g. expected position value)—, it was necessary to test if these concepts are even useful for the coaches and athletes. Detailed explanations of the two concepts (transition and expected position value) can be found in chapter 5.2.1 - Case 11.

Innovation Process

For the transition concept, the team set up a quick algorithm and manually tagged several game situations as "transitions" to train the algorithm and enable it to identify and mark phases of transition automatically. The algorithm's result was then compared with the opinion of analysts and coaches to check if the algorithm correctly classified the new game situations. It turned out that the machine did the classification quite well and in accordance to the intuitive understanding of the coaches.

In regard to new concepts like the "expected position value", the innovation team first had to test if the market (i.e. the first team's analysts and coaches) was willing to use this metric as a new KPI to help take better decisions. Before the team started to build the prototype, they talked to analysts and coaches in order to better understand how they evaluate players' contributions in regard to decision-making. Thereby, they realized that up to then evaluations had been made on a pure experience-based basis. Based on the insights from the conversations, the team developed a first prototype of a quantitative concept that should evaluate the decision-making process of players on the pitch. The prototype was tested with the analysts, who were defined as the actual end-users, since their task is to provide coaches with more and better information. Although the analysts did not completely understand that the new metric "expected position value" was actually quantifying, they realized that the value of the metric often co-related with their experience-based intuition. After testing the most important hypothesis, that the new concept is useful and brings value to the analysts and coaches, the team refined the concept in an iterative process based on the analysts' feedback.

The innovation team tested many other concepts apart from "transition" and "expected position value". What mainly helped them to validate the concepts and get feedback on the prototypes was the fact that a representative of the analysts worked with the data-science team on a day-to-day basis. Moreover, the video analysts delivered BIHUB weekly feedback in the form of a list of questions which they had been asked by coaches in terms of tactical analysis. If, for example, the list contained a new tactical expression from the coach, the BIHUB team would develop that concept in a weekly sprint and showcase it to the coach and the head of analysts to learn fast and understand if it would be useful and valuable for them.

Through user testing and iterations, the sports analytics innovation team built more and more concepts into the initial prototype based on the needs and feedback of the analysts. Finally, they ended up with an algorithm that aggregates many layers of individual algorithms and automatically tags game situations based on the different variables. The resulting metrics of the different concepts are displayed in a dashboard, and analysts can check highlighted metrics by consulting the situation in the attached video and then directly forward the information to the coaches as part of their reports.

After a last holistic testing of the final solution with the analysts as well as the coaches, the new tool was introduced in the first team. However, it is not yet used on a regular basis but rather on a case-by-case basis. The innovation team at BIHUB is still in the learning phase, developing and testing new concepts. The ultimate goal is to use the analysis tool even during games and bring it also outside FC Barcelona. The final idea is to spin out the project and to create a new company which shares the knowledge and tool with other clubs. In fact, BIHUB is already doing that by publishing everything they develop in scientific publications. However, having a ready-to-use tool that integrates many different tactical concepts is something they still have to work on in the next two to three years.

Cases 4, 12 and 15: Shoe Design at Adidas and Nike (continuation)

Context and Challenge

In previous chapters, we saw the examples of Adolf Dassler (founder of Adidas), Bill Bowerman (Co-founder of Nike) and Tinker Hatfield (chief design officer at Nike), who all developed iconic shoe designs for the sports world. Dassler's soccer cleats, Bowerman's running shoes and Hatfield's basketball shoes have been designed with the primary goal to improve athletes' performance. Dassler and Bowerman both crafted functional shoes based on the needs of their athletes. While Dassler integrated longer, exchangeable studs in his soccer cleats to avoid that footballers slip on wet ground, Bowerman created lighter and more responsive tracking shoes to gain valuable seconds in races. Furthermore, at that time, advancements in shoemaking technology allowed them to introduce new elements beyond the simply practical. Shoes were now seen as design objects for which inspiration was now taken from other industries and contexts to make them work on a functional and aesthetic level (Turner, 2019). The same philosophy has been followed by Tinker Hatfield. Hatfield highlights that it is ultimately about performance but there are more layers around the look and feel of shoes and turning each shoe into a story.
Although none of the three legends had a design background, they all created exceptional shoe designs that catered to athletes on the highest level. What made them so successful? Dassler, Bowerman and Hatfield all started from empathizing with their athletes and figuring out clear athletes' problems. From there, they developed several prototypes and tested and adapted them on a continuous basis. This ongoing loop of validated learning processes through prototyping and testing is what ultimately made their shoe designs so

successful. What prototyping and testing tools and methods the three innovators used is explained below.

Innovation Process

Adolf Dassler*:* As explained in chapter 3.2.1 - Case 4, Adolf Dassler used to assist football trainings of both the German national team and lower level teams. He would stand by the touchlines and observe players during the trainings while taking notes. Whenever he observed something unusual, he would approach the players and ask for the reason of their behaviors. This method of close observations combined with interviews led to the decisive insights for the design of the new cleats with longer, exchangeable studs inspired by solutions from mountain climbing and the military. He took his idea of altering the length of the studs depending on the different weather conditions from prototype to product, by solely asking players for their feedback. In order to test his assumptions (e.g. longer studs have a better grip in wet soil and screwable studs do not get lost during a game), he asked players very simple questions, such as what they thought of the shoes and how the shoes performed when it rained. Based on the players' feedback, Dassler then iterated on the cleats design and went back to the players again to get their feedback. This process was repeated several times until the German national team unveiled the new soccer cleats in the Soccer World Cup 1954, and Adolf Dassler was credited of playing a central part in the win of the first World Cup of the German national team.

Bill Bowerman*:* As outlined in chapter 6.2.2 - Case 15, Bill Bowerman's methodology around prototyping and testing was not only scientific but also very practical. After each race, he would talk to each athlete individually and ask for feedback on how the shoe felt on the foot, how comfortable it was, among other matters. In regard to athlete feedback, Bill Bowerman and Nike had some strict tenants. Bowerman was well aware of the risk of biases and tried to minimize them as much as possible. Therefore, when collecting feedback, he used a checklist with a fixed set of interview questions. This would help him to get more objective and more consistent data over time. Besides these qualitative inputs from the athletes, Bowerman also measured and compared more quantitative aspects like the training/race times or the wear-and-tear of the shoes. He would then take this qualitative as well as quantitative data, analyze it and go on to the next prototyping session.

Tinker Hatfield*:* While Bill Bowerman's main criteria for the validation of the shoes was performance, as we explained in Case 12, Tinker Hatfield additionally validated his shoe designs around the look and feel of the shoes. Therefore, Tinker Hatfield has mostly used focus groups. In focus groups, a small group of participants is asked about their perceptions, thoughts and feelings towards a new solution. Focus groups take place in an interactive setting in which participants are allowed to talk to each other. Besides the overall opinion and perception of a new solution, specific questions around individual features can be asked (Focus Group, 2020). (More details on how to use focus groups in the design thinking process can be read in chapter 9).

The examples of Adolf Dassler, Bill Bowerman and Tinker Hatfield show that user testing and user feedback integration is fundamental to create successful innovations that last over time. Moreover, user testing should be conducted both in a scientific and practical way. Depending on the type and functioning of the final solution, different tools and methods are appropriate to best learn from users and adapt the solution based on a continuous feedback loop.

Case 6: The New NBA Ball (continuation)

Context

Chapter 3.2.3 - Case 6 describes Spalding's attempt to introduce a new basketball in the NBA in 2006. Spalding's new ball was made of microfiber material that was supposed to offer a better grip, feel and consistency than the until-then-used leather ball (NBA introduced New Game Ball, 2006). The new ball was first introduced in lower basketball leagues before the NBA announced the change. However, after 30 years using leather balls, the NBA changed to this synthetic version only to suffer backlash. NBA players were not at all satisfied with the new ball because it bounced differently than the leather ball, turned slippery when it got wet and caused little cuts in the players' fingers. But why did Spalding not find out about these issues before introducing the new ball in the NBA?

Innovation Process

The main reason for the innovation failure was that the NBA players neither were consulted nor had the opportunity to test the new ball before its implementation. Thus, the loop of validated learning did not take place. For a successful learning process, assumptions like "the microfiber ball performs better than the leather ball" or "NBA players like the new material and feel comfortable playing with it" should have been tested before the implementation for two goals: first, to confirm these assumptions and make sure that the new ball actually enhanced performance through a better grip, feel and consistency; and second, to get the approval and buy-in from the NBA players, who used the ball on a highly frequent basis. However, proper user testing did not take place, or only with a user group like lower league or retired players who had different needs than NBA players. It turned out that lower league players were actually not incentivized to provide honest feedback, as they did not want to rock the boat but climb into higher leagues. Thus, Spalding found out about the shortcomings of the ball only later, when it already had been introduced in the NBA. If Spalding had involved NBA players at an earlier stage, they would have known about these problems earlier and could have reacted before implementing the new ball.

Despite the fact that the performance of the ball was disappointing, the players also felt betrayed for not having been consulted for such a fundamental change. Basketball meant everything to them. LeBron James, a basketball player for the Los Angeles Lakers, manifested the following: "The only thing that we love the most is the basketball. That's

your comfort. I mean, without your basketball, it does not work. Why would you change something that means so much to us?" (Roth, 2017).

Due to the constant negative response of the players, the NBA acted accordingly and returned to the old leather ball only two months later. The outcome of the failed experiment was that the NBA realized that they needed some sort of "playground" where they could test new ideas and products. One problem around the lack of user testing was that Spalding literally had no possibility to test the new ball due to the playoffs and the following summer break. Today, the NBA G-League (also known as "NBA Development League") serves as solution testing and innovation ground where teams can test new ideas and solutions. The NBA G-League is a minor league in the United States, with 28 teams, almost all of them owned by an NBA team.

To sum up, the NBA learned from their innovation failure and defined the G-league as testing ground to experiment with new ideas and products. Moreover, the new NBA ball is a good example to illustrate that testing with the actual end-users is inevitable as the end-users' view is the most important statistics when it comes to the validation and adoption of an innovation.

Case 17: Glovo (non-sports)

Context and Challenge

The yellow backpacks used by drivers to deliver meals, medicine, flowers and other goods by bicycle to people's homes have become omnipresent in Barcelona. Unlike its competitors, Deliveroo and UberEats, Glovo does not just deliver food, but all kind of different products. Users can order whatever they want. The company started five years ago and is now on the way to €250 million in sales (2020). Moreover, it recently achieved the status of a "unicorn" (startup valued over $1 billion) and it is only the second privately held business in Spain that has reached this valuation (Glovo: How a Spanish delivery firm is out to conquer the world, 2020).

Since Glovo started in 2015, they have continuously developed, tested and adapted their product based on user needs and the product's tech adoption lifecycle to attract more and more users. Their product evolved from a simple website to an elaborated app with circa 250 developers working on the optimization of its algorithms. Glovo's founder, Oscar Pierre, stated as follows: "The on-demand delivery business is so tech intensive because it is all about eking out small gains to reduce friction and yield incremental savings by automating and optimizing platform and UX interactions which make the difference for this type of thin margins business" (Lomas, 2019).

But how exactly did Glovo evolve their product from the first version to what it is today?

Innovation Process

In 2015, Glovo released its first MVP (minimum viable product). It was a simple website with only one button through which visitors could get to a second page with a basic input box, which read “Pídenos lo que quieras” (“Tell us what you want”, in English). People could type in the name and description of the product they wished to have delivered at home. Moreover, they could indicate if they would like to have the product delivered at that very moment or later. Once the customer hit the “Send” button, one of the three employees at that time would receive an email with the order, get on the motorcycle, buy the respective product and bring it to the customer. That’s how it worked at the very beginning. It was a very simple tool with the main goal to validate the initial hypothesis that people are willing to buy goods online and to have them delivered at home. 95% of people who saw it thought this would be crazy, but there were a few curious people who actually wanted to try it out. These people are called “innovators” in the tech adoption lifecycle. Innovators are risk-takers who do not care if the product does not look nice or if it has bugs, they just want to try out cool and innovative things. So, the first MVP of Glovo was targeted at innovators (Kunowski, B. 2019).

Then, 3-4 months later, Glovo released the second version of its product, which was now an app. In this first version of the iOS app, Glovo still focused on the core product. The structure and content of the app was very similar to the website. When opening the app, there were two buttons “Quiero pedir algo” (“I want to order something”) and “Quiero mandar algo” (“I want to send something”). Then, users were redirected to the same form as before, where they could type in their orders. However, there were two new features: the possibility to upload photos of the desired product and live tracking. At that point, customers had to pay a flat fee of €5.50 delivery fee plus the price of the ordered product. With the app, Glovo wanted to reach the so-called early adopters, people who are opinion leaders and always look for something cool.

Some weeks later, Glovo had around 3,000-4,000 satisfied users who used the app on a regular basis. Now the time had come to target the mainstream customers (early majority), who constitute the bulk of the market. However, there is a difference between what makes early adopters happy and what makes early majority users happy. A typical statement from early majority users was something like “The app and the textbox are great, but I do not know what’s possible, I would prefer to select from different categories or products”. Moreover, they would not place any order because they did not know what the final price would be or simply because the delivery fee of €5.50 seemed too expensive. Lastly, early majority users were a lot less trusting. Glovo realized that they needed to build a proper feature set for the early majority in order to scale. Hence, Glovo started to adapt its product to remove uncertainties and optimize the value-cost relationship.

Thus, Glovo started partnerships and revenue sharing deals with stores to lower the price for the end-users. In order to create the different categories, Glovo looked at the data they had gathered in the first two product versions. They analyzed all entries and categorized them in different types (e.g. pharmacy, food, restaurants). Then, the next question was

how to display those new product categories in the app. Glovo knew that they would need to improve the user interface in a way that gave users more confidence. This was when design aspects of the app became important. The team went through multiple design iterations to test different design options. First, they kept the two big buttons and placed the categories around them. They tested it with randomly selected people in Starbucks and realized that the user interface, especially the two big buttons, was not very clear for most of the testers. So, the team created another design with the "Order anything" button, the magic option and core of Glovo, placed in the center, and the categories around it. They went out again to test the second design version, and this time testers understood and liked it much better. Customers could now go into the different categories to see a list of stores which can be clicked to consult menu items or descriptions. Furthermore, new features like Glovo search or distance-based-pricing were added (Esade, 2019).

All this was developed when Glovo was one year old. And it is essentially what the core product still looks like today. However, the company keeps adapting its product and experiments with new features constantly. Oscar Pierre says as follows: "We have a mentality of testing things" (Lomas, 2019). Soon it might be possible to make restaurant reservations, buy movie tickets or hire home repair services via the app, as Glovo works towards its overarching vision of being an "everything app" for urbanities.

4.1.3 Analysis and Discussion

Almost all cases presented in this thesis highlight the importance of testing and **learning from user feedback in multiple cycles**. If done right, this stage often feeds into the stages before: it allows to empathize better with users, it might lead to new problem insights that change the initial problem definition and it might generate new ideas, leading to the next prototyping iteration.
The NBA example shows quite well how the lack of testing and going through iterative learning cycles prior to implementation can lead to innovation failures. From the failed project, the NBA learned that having a **good testing environment**, which is as close to real life use as possible, is fundamental for innovation success, and they defined the G-league as a "playground" to test new ideas and products.
The NBA case also underlines the fact that it is crucial to **test solutions with the right user group**. The NBA actually tested the new ball with lower league players and then simply assumed that their findings would also hold true for NBA players. The ball might have been perfectly fine for lower levels but not for the NBA.
A similar failure happened to a video game software developer and distributor called Activision. Activision hit gold with its Tony Hawk's Pro Skater game and subsequently wanted to expand into other extreme sports with a similar concept of a surfing game. They just assumed that the user response would be the same and thereby neglected that the background in surfing was completely boring. For the NBA and Activision, this lack of

testing with the right user group led to losses of millions dollars. Therefore, it is crucial to test the right product with the right user group at the right time.

Glovo is a great example that illustrates this relation between when to test and with whom. Glovo started with a simple website to test the assumption that people are willing to buy products online and have them delivered at home. With their simple but innovative initial product, they attracted early adopters, people who usually do not care about imperfect solutions but just want to try something new. In this early phase, it is important for companies to mainly focus on the core value proposition. The biggest risk is to develop features for people later in the adoption lifecycle. As it is outlined in the Glovo case, there is a big difference between the needs of early adopters and the needs of the early majority. Only later, Glovo adapted its product to the needs of the early majority by integrating different categories, changing the pricing and making it more trustworthy. Many companies fail to recognize this gap and continue building features for early adopters, instead of adapting their products to the needs of the bulk of the market. Thus, the example of Glovo shows very well how features should be prioritized based not only on user needs but also on the tech adoption lifecycle, and how testing should evolve from simple experiments to more complex experiments along the product development process.
Apart from knowing what to test with whom, it is also important to know how to test. It is fundamental **to interact with users in a non-biased way** in order to receive proper data. In the NBA example, it turned out that lower league players did not provide honest feedback, as they feared that too much criticism would hinder them to ascend to higher leagues. This "fake" feedback gave Spalding and the NBA false confidence. Rob Fitzpatrick developed a concept called "The Mom Test". It says that users tend to behave like your mom: they want to be friendly and give positive feedback. However, especially in early stages, this is the worst thing that can happen.

Bill Bowerman was aware of this issue and designed a checklist to cover all important questions when collecting feedback. The shoe design case perfectly illustrates how user feedback can be collected through **qualitative as well as quantitative methods**. At the early stages of the innovation and development process, qualitative data is very valuable to discover user insights and test basic assumptions. Adolf Dassler used qualitative methods like observations and interviews to empathize with football players and define a specific problem. Then, towards the later stages of the innovation process, also quantitative testing is needed to show the relationships between different variables and to test hypotheses. Bill Bowerman used to take the training and race times of each athlete and measured the wear-and-tear of the shoes over a certain period of time. He then compared the results to make sure that his shoes actually improved athletes' performance. Thus, quantitative data can deliver valuable insights; however, it should not be used on its own but be complemented with qualitative inputs (see Amazon vs. Netflix example in chapter 2.3). Bill Bowerman, for instance, sat down with his athletes after each

training and asked them a set of questions on the shoes performance. Another possibility to get qualitative user inputs is to conduct focus groups (see chapter 9 for a detailed explanation of this method), illustrated in the example of Tinker Hatfield. Lastly, in the example of FC Barcelona it can be seen how user inputs helped the Barça Innovation Hub team to define the most relevant concepts first. Only later in the process, the team used quantitative data to test the algorithms and to compare the values with the experience-based values of the coaches.

To sum up, this chapter highlights the importance of testing and learning from user feedback in a continuous, iterative cycle. It highlights the importance of creating a good testing environment in which solutions can be tested with the right user group through both quantitative and qualitative methods in a non-biased way.

Unit 4.2 Developing the Business Model

4.2.1 Introduction and Overview - The Art of Developing the Business Model

Innovation is not only about developing a novel, useful and feasible solution but also about delivering it to the end-users, achieving market acceptance and scaling. This area of innovation related to the business model often gets overlooked, although setting up the right business model plays a fundamental role for innovation success. Nowadays, product and service innovations might no longer create sufficient opportunities for differentiation. Instead, finding new ways of how solutions are brought to market might be the most powerful way to innovate.

Evolution of Traditional Business Models in Sports

The traditional business model in sports is designed around selling live events (i.e. matches) including tickets, merchandise and concessions. Typically, there are four different types of business models in sports:

1) *Tickets:* Ticket sale was the very first primary business model in sports.
2) *Distribution rights:* Mostly, content is sold to another party which monetizes on behalf of the selling sports organization. In some rare cases, sports organizations monetize content themselves.
3) *Advertising and marketing:* Corporate sponsors pay for advertising space in and around stadiums or on digital platforms.
4) *Merchandise:* In apparel, the selling of goods and services to customers (B2B or B2C) is prevalent.

In the last few years, sports teams have started mimicking business model innovation that had been happening in high tech (e.g. subscription and membership models). One example of a successful business model innovation is DAZN, which will be explained in chapter 8.2.1.

Evolution of Video Gaming Business Models (e-sports)

In 2019, the video game industry was worth 152.1 billion USD and it is growing so fast that some forecasts indicate that it will reach over 300b USD by 2025. There within, e-sports (electronic sports) is a small but rapidly growing business. E-sports is a type of sport competition where gamers play video games in front of an audience in organized competitions and leagues (Koksal, 2019; Dwan, 2017).

But how has gaming become such a big and rapidly growing business? While one answer is the fast-growing user base, another answer is the business model innovation. The way video games have been sold has drastically changed in the last 10 years. As described in chapter 5.2.4 - Case 14, Nintendo was leading the video game market, when Sony and

Microsoft started gaining market share due to more innovative technologies. Soon, the shift from console-based gaming towards digital gaming happened. Thus, many gamers switched from retail to digital distribution channels, like Steam, which started to buy the rights to distribute x number of games for a fixed price on a monthly basis. However, the subscription model has proven to be unable to retain gamers, and free-to-play games like Fortnite or Apex Legends started to get more popular. Free-to-play games are completely free to register and play but still achieve to be one of the most profitable video game models in the modern age. The example of Fortnite in chapter 8.2.2 will illustrate how the free-to-play business model works and where revenues come from.

Evolution of FC Barcelona's Business Models

Traditionally, FC Barcelona has built its business models around three areas:

1) *Entertainment:* Fans have fun watching football matches at the stadium Camp Nou or at home. Moreover, fans also enjoy following the players on social networks. In terms of entertainment, the club has always been generating revenues through selling game tickets to fans or through selling TV broadcasting rights to distribution channels so that (international) fans can watch games at home.
2) *Community:* Each year the "socios" (members of the club) pay a fee to be part of the Barça community. Recently, in June 2020, FC Barcelona also launched a new loyalty program (Culé membership) for international fans abroad.
3) *Brand relationship:* Fans pay a premium for Barça merchandise because it makes them feel happy to wear an authentic Barça shirt. Besides merchandising, the club also monetizes on its brand through sponsorship deals.

Apart from these three main areas, FC Barcelona has also started to make money out of buying and selling players. Some years ago, the transfer of players was not a well-seen business activity at FC Barcelona because the club simply wanted to have the best footballers playing with them on the field. But in the last 2-3 years, Barça also entered the transfer business.
Then, in 2017, with the launch of Barça Innovation Hub (BIHUB), the club also started to monetize on an intangible asset:

4) *Knowledge and innovation:* The club has understood that FC Barcelona is perceived as an organization that has maximum expertise in all related areas and that this (perceived) knowledge can be commercialized. FC Barcelona realized that other organizations and companies have a high interest in understanding how FC Barcelona does things and also how they potentially could implement those things in their own organizations.

Hence, BIHUB was created with the idea of being an innovation and knowledge partner. One criterion of the board of directors for the creation of BIHUB was to implement a self-sustaining business model. Therefore, BIHUB identified many different options of how knowledge can be monetized –from consultancy services over education to investment assessments. Finally, they decided that the option of leading innovation projects in collaboration with corporations was the most promising one. From many conversations with various companies, it crystallized that corporations are not solely looking for brand awareness in the media, but rather want to be perceived as an innovative brand to retain talent, follow their long-term vision or achieve a unique brand positioning. Many companies believed that collaborating with BIHUB would position them as innovative brands. Based on these insights, BIHUB started to design an upselling strategy aimed at corporations that aspire to collaborate on specific innovation projects. These co-development projects are normally offered within the package of a sponsorship deal. One example of this corporate innovation membership program is the sponsorship agreement with Allianz, which also encompasses collaborative innovation agreements. As part of the co-development agreement, BIHUB and Allianz identified the need for a project around sleep monitoring in spring 2019, which consisted of a series of studies in order to better understand the relationship between sleep and performance. They came up with an experiment using a smart T-shirt to monitor sleeping and breathing rate through built-in sensors. The study collected sleep data of around 600 Barça athletes from different sections, which was then analyzed to assess the impact of sleep on their physical and cognitive performance (The BIHUB and Allianz align themselves to promote a study on sleep, 2020). Javier Sobrino, FC Barcelona's chief strategy & innovation officer says as follows: "Allianz is willing to expand its business into wellbeing services and leverages Barça Innovation Hub know-how, testing space and showcasing capacities to develop joint research and innovation projects as one of the most important aspects of the new sponsorship agreement with the club." (Visnjic, n.d).

To sum up, FC Barcelona's business models have evolved from monetizing on entertainment, the brand relationship and the community, to monetizing on the knowledge of the club. BIHUB was created with the aim to be a self-sustainable unit that reinvests everything it generates on research and innovation. Thereby, BIHUB manages innovation projects with a long-term perspective. This long-term strategy with the reinvestment of profits in intangible assets like knowledge is very valuable from an innovation-standpoint but also from a club-standpoint, since this will allow FC Barcelona to grow exponentially in the future.

Table 2
Cases - Business Model Innovation

Case	Name	Main stakeholder	Short description of main challenge
Case 18	DAZN	DAZN (div.)	Build specialized sports streaming platform similar to Netflix
Case 19	Fortnite	Epic Games (e-sports)	Offer free-to-play online video game and monetize on in-game purchases
Case 20	Nespresso	Nestlé (non-sports)	Create a convenient, elegant & high-quality coffee experience

4.2.2 Cases

Case 18: DAZN

Imagine you are a big boxing fan but you also fancy watching Premier League soccer games every weekend. Before 2016, it was not possible to watch boxing fights and Premier League soccer games on the same platform. You had to buy the TV "football package" and additionally pay for the TV "boxing package" at a local telecom provider. But then in 2016, DAZN disrupted the market with its subscription-based sports streaming service, and pulled boxing, Premier League soccer and many other sports under one platform. Its business model is simple and straightforward. Out of the fragmented landscape, they created a value proposition for people like you and me, who are fans of multiple sports.
So, you join DAZN because you are a boxing fan. And you stay on the platform because you are amazed by the depth of DAZN's content with its high amount of boxing broadcasts. Moreover, you also have the possibility to watch other sports because DAZN holds sports property rights to stream sports events in football, basketball, baseball, hockey and many more. That was not possible before. DAZN describes itself as "the first global pure sport live and on demand streaming service" with the mission to "take fans closer to sports they love at an affordable price" (Explain-o-sphere, 2019). DAZN was born out of the UK-based Perform Group, a digital sports content and media group specialized in sports rights, sports broadcasting, sports data and journalism (DAZN puts fans in first place, 2019).
DAZN launched in Germany, Austria, Switzerland and Japan in 2016. Since then, it has expanded into Canada, Italy, Spain, US and Brazil. With the expansion into new countries, it has bought more and more sports broadcasting rights. For example, as a platform strategy for a successful entry into the U.S. market, DAZN started to focus on combat sports like boxing and MMA. DAZN signed a contract with the Mexican boxer Saul Canelo Alvarez for 365 million USD to have the rights to broadcast the next 11 fights in the coming five years. That contract has been called the richest contract in sport history. It is 33.1 million USD per fight, which is a little bit more than $2 per second. After this announcement, HBO, known for broadcasting the major boxing events in the last 45 years, has left the boxing business. Furthermore, for the fight between Canelo and Rocky fielding, DAZN produced

its first episodic program, showing the behind-the-scenes of both boxers, training for the event.

DAZN has been designed as a digital enterprise based on cloud technology. This cloud-based model has allowed them to test and experiment with new offerings and business models before making investments. For example, they could test various versions of their subscription model, currently set at €/$9.99 with a free one-month trial as one of their main hooks. Subscribers can cancel their subscription anytime with no penalty fees (in Spain, for example, the €9.99 platform fee is a huge difference to the monthly € 114Movistar package, which includes a "football package" including La Liga and Champions League phone and internet contract). Another advantage of this fully digital model is the availability of customer data. This allows DAZN to make detailed analyzes of customer behaviors –what they view, when they view, how they view, etcetera. It is very similar to the Netflix model; actually, DAZN is being billed as the Netflix of Sports (Biddiscombe, 2018).

Although DAZN has done a great job at identifying underserved customer needs and creating a superb value proposition as a one-stop shop for sports broadcasts, other elements of their business models might be more questionable. Like Netflix, DAZN's strategy is to build up a wide audience by investing in growth. In order to attract new subscribers, DAZN has bought more and more sports rights, which has been leading to billions in losses. However, it will be more difficult for DAZN than for Netflix to achieve a certain volume of users to offset these losses, because the truth is that everyone is still trying to get sports for free, specially if it is second-tier or third-tier leagues. It seems that offering one solo package has been hurting DAZN's overarching business model as they spent too much money on new sports rights. The problem is that their business model is very reliant on a huge subscriber base. However, sports rights are so fragmented, that, except for combat sports, they do not have content unity and clarity throughout their entire platform. It crystallized that people come specifically for that one sports event and then cancel their subscription again.

Thus, it still has to be seen if DAZN's business model actually supports the platform they have created, or if the high subscriber churn will increase negative cash flows and losses. Furthermore, the global suspension of sports event during the pandemic of COVID-19 has worsened even more dramatically the financial situation at DAZN. Simon Denyer, DAZN's chief executive says that "This is the biggest disaster to hit the sports world in 75 years and the biggest challenge our business has ever faced" (Ahmed, Barker, Lewis, Fontanella-Khan & Seddon, 2020). DAZN is at a crossroads as a business. If they survive and thrive, it will be a great success story. And if they fail, it will be a story of a company that tried to disrupt the sports broadcasting industry too soon.

Case 19: Fortnite

Fortnite is an excellent example of a multi-billion-dollar empire built with a free product. Fortnite launched in 2017 and has amassed over 1/4 billion users in two years. In 2019, the

company counted 250 million registered players, which is more or less the size of Snapchat's user base (Ganti, 2020). However, Fortnite's popularity was not an overnight success but the result of a continuous innovation process in collaboration with core customers and main stakeholders.

The game is completely free to use in its full capacity. It is not possible to buy additional functionality that gives gamers an advantage over non-paying users. If users do not want to spend money, they do not need to. But how does Fortnite make revenues, then? Most of Fortnite's revenues come from in-game purchases, such as character outfits, skins or weapons, which sometimes are only available for a limited time. It is a risky business model that counts on the popularity of the game so that complementary products generate profits. Furthermore, Fortnite bet on a strong community identity of Fortnite players, where self-expression and individuality would play an important role. Nonetheless, statistics show that around 70% of players have made an in-game purchase. It could be argued that the free access creates trust among the audience, which ultimately leads to conversions (Yaye, 2019). Another important point is that Fortnite made the game available on all possible platforms, including non-traditional platforms like phones and tablets. Thus, the game grew beyond traditional gamers, as users did not need to buy specific gaming consoles anymore.
The game is constantly adapting, which makes it even more interesting for gamers. Game developers are continuously changing the story. Stories and landscapes evolve in real-time, with live events happening while players are in the game (Gasca, 2019). Fornite's live events, especially live concerts, are getting more and more ambitious, with each new event being more elaborate than the previous one. The 2019 concert of Marshmello, an American electronic music producer and DJ, was a stunning example of how a virtual concert could look like. However, the Travis Scott show in April 2020 was on a whole other level and blew people away. More than 12 million gamers logged in for Fortnite's most successful live event. Although Epic Games had been setting up the in-game stage for the concert and players could actually see the stage being constructed, it disappeared when the concert started, the entire Fortnite island became the stage and players were taken to new places. The visuals changed constantly with a skyscraper-sized version of the American rapper, teleported across the whole landscape while he performed his tracks and even revealed a new song. Thus, it was more of a tour and immersive experience rather than a concert. Players were launched into the air or submerged underwater at different transitions during the concert. Moreover, they could celebrate the event with themed in-game purchases. Epic Games released Travis Scott-themed cosmetics or challenges that gamers could complete to earn a banner, loading screen and other things (Webster, 2020; Tidy, 2020).

Figure 1. Travis Scott's first Fortnite Concert

Source: Travis Scott's first Fortnite Concert [Online Image]. The Verge. Retrieved October 2020 from https://www.theverge.com/2020/4/23/21233637/travis-scott-fortnite-concert-astronomical-live-report by author.

In the light of the current COVID-19 crisis. with people staying indoors and live shows being cancelled, the already high viewership of such virtual in-game events is foreseen to rise rapidly. Although Fortnite is a free-to-play game and gamers are not charged for attending the concerts, in-game events could be a solid way for artists to express themselves, connect with fans and boost revenues, for instance, through special merchandise editions. Generally, live streaming performances and digital tours as well as the collaboration between the gaming and music industry are likely to evolve in the future. Events will become even more immersive, with Fortnite continuing to surpass itself and moving from being a game to a platform and possibly major player in virtual reality. Fortnite definitely has the potential to become more than just a game.

Case 20: Nespresso (non-sports)

In 1975, an engineer named Eric Favre, who had recently started working at Nestlé, was assigned the project to develop a machine that would combine the convenience of domestic coffee with the elegance and quality of an Italian espresso bar (Cumming, 2020). This market gap was not obvious at a time when only two types of coffee were drunk at home: roast coffee which was tasty but laborious to prepare, and instant coffee which was quick to prepare but less tasty. After a trip to Rome, Favre pursued the idea of a portioned

coffee system which would offer high-quality coffee with the speed and convenience of instant coffee: basically, espresso available at home. When Nespresso launched in 1986, the idea was to sell the machines to businesses which lacked enough space to install a full-size coffee machine. However, despite Favre' efforts of and his team's, businesses were not interested, and Nespresso almost went bankrupt due to the non-performing business model.

Subsequently, Nestlé brought in a new man –Gaillard–, who designed a new business model. Most importantly, Nespresso began selling to households. At the heart of the new business model, which ultimately made Nespresso so successful, is the machine with the pods for which the company set up two different strategies. For the Nespresso machines, the strategy was to sell them through all possible retail channels in order to reach as many individual people as possible. Although Nespresso would earn some money from the transactional sale, most of the money would go to the machine manufacturers producing the machines. Thus, selling machines would not be a very interesting business for Nespresso. What was more interesting for them were the pods, for which they had a different strategy: they did not use retail but sold them directly through their own channels. They started with mail orders and call centers and then set up nespresso.com and Nespresso stores all over the world. In this way, they pursue strategy similar to Apple's, by building their own stores to create a high-end brand. They understood the dynamics that once they would get the machines into the households, the consumers would not have a choice anymore and could only use Nespresso pods. Just as Gillette, Nespresso's revenue model builds on the razor-blade model. Instead of earning money through the machines, they primary earn money through the capsules, which consumers have to keep buying because only Nespresso pods work in Nespresso machines. So, they would automatically go to Nespresso's channels and buy the pods. There are no middlemen; all the revenues go right into the pockets of Nespresso, which means recurring revenues and very high margins by selling directly. However, this new strategy for pods required some process changes. For the first time, Nestlé had to switch from B2B distribution to B2C distribution, which meant building new logistics to send small boxes to individuals whereas before only big Nescafé palettes were delivered to retailers (Kirenz Analytics, 2015).

In order to make this model work, patents have been a key component of the entire business model. Nespresso had to protect their system; otherwise, other companies could have produced cheaper pods and brought the margins down. Apart from patents, another key resource is the availability of high-quality coffee. Nespresso wanted to get the best coffee worldwide and build high-end production facilities to create the best pods with the best quality coffee inside. Finally, Nespresso's triumph is also based on its branding and marketing. Gaillard transformed the brand from an office coffee company into a luxury brand. This includes the "club feeling" created by the upper segment marketing strategy with George Clooney, the powerful communication strategy with the slogan "Nespresso.

What else?" as well as its elegant, modern and luxury Nespresso boutiques. Nespresso is the Apple of the coffee world (Kirenz Analytics, 2015).

Nestlé captured much value by creating the Nespresso, business which is seen as one of the most successful business model innovations in the recent years. For drip-filter, open-system coffee (i.e. filter coffee), consumers were charged 25 - €100 for a machine and €10/kg for coffee. With the product innovation of the single-serve coffee system, users were willing to pay 50 - €200 for a machine (twice as much) and €14 more for coffee (40% more). Then, Nespresso was introduced into the market. Nespresso was just another single-serve system; so, actually, not much innovation happened on the product side. However, through the way the product was brought to market, consumers were now even willing to pay 80 - €300 per machine. This means that Nestlé substantially increased the value of the machine. Even more remarkable is the five-fold increase in the coffee price. Instead of paying €14 per coffee, consumers were now paying an average of €67/kg Nespresso coffee. This means an overall value increase from about $1 billion to $10-15 billion. This is why Nespresso is an excellent example to illustrate the value that can be gained by innovating the business model.
Today, roughly 14 billion Nespresso capsules are sold every year and more than 400 Nespresso coffees are drunk every second. However, as their patents are running out, Nespresso is increasingly threatened by rivals which offer cheaper capsules. Moreover, the company also faces criticism regarding the environmental impact of the pods, as they contain plastic as well as aluminum and, therefore, cannot just be dropped in a regular recycling bin.Currently, Nespresso designs and tests new ways of collecting and recycling the pods with the goal to find convenient solutions for customers to return the pods, such as collection points in Nespresso boutiques, recycling bags for club members or partnerships with post offices. However, the even more environmentally friendly alternative would be to use reusable capsules or bio-degradable capsules and solve the problem at its root. The examples show that Nespresso's business model of the future might be about waste management, transparency and sustainability, leading to a circular economy (Hengsberger, 2020).
This nicely illustrates that the perfect business model might not exist, and no business model ensures an ever-lasting competitive advantage, since consumer preferences, market conditions or other internal and external factors change. Generally, business models require continuous evolving. Moreover, now during COVID-19, Nespresso had to close all its boutiques and find itself in an uncomfortable new world. Doing the right thing will matter. It will be interesting to see how Nespresso will evolve its business model in the future.

4.2.3 Analysis and Discussion

The analyzed cases in this chapter show how **business model innovation** can create, deliver and capture new value not only for startups or new enterprises like DAZN but also

for established companies like Nestlé or Epic Games. Business models in sports have traditionally been established around selling live events including tickets, sports broadcasting rights, advertising and merchandising. DAZN and Barça Innovation Hub are good examples of completely new business models in sports.

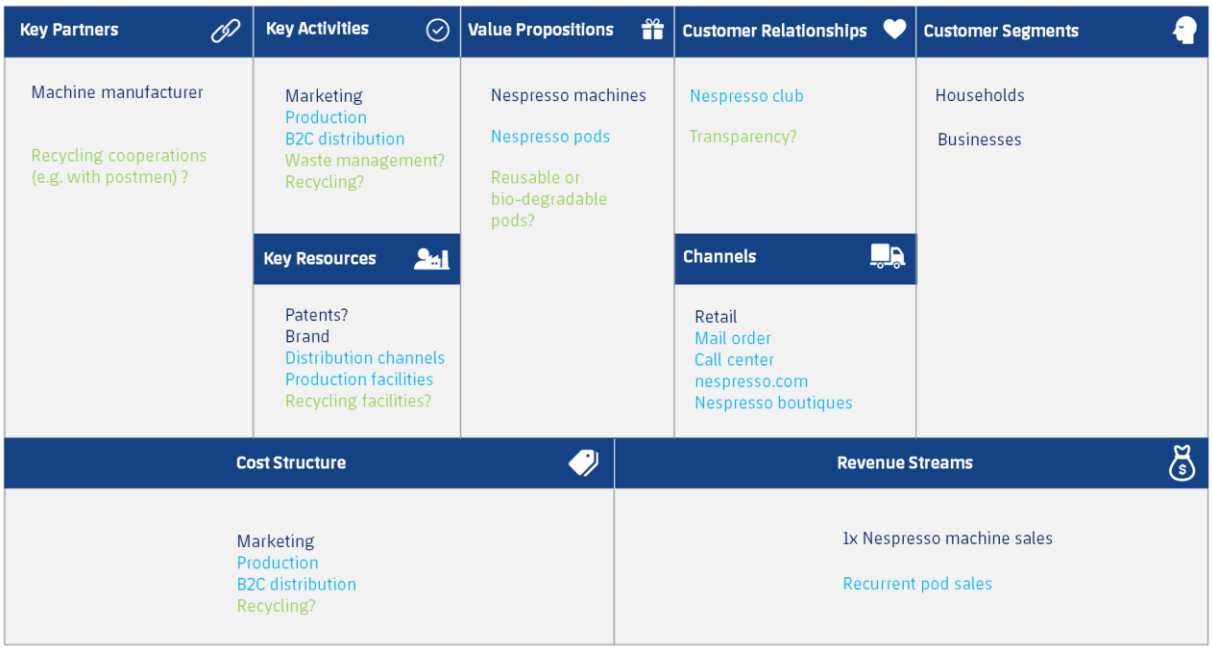
Barça Innovation Hub has been created to become a renowned knowledge and innovation center that involves many actors of the sports ecosystem and creates new revenue streams for the club. It is interesting to see how FC Barcelona leveraged its brand and key resources to come up with a completely new value proposition and value delivery with the creation of Barça Innovation Hub.

Another example of business model innovation in sports is DAZN. DAZN disrupted the sports broadcasting industry by offering a cloud and subscription-based platform model for sports broadcasting. In the previous chapters, we saw how user problems can be solved by borrowing and rethinking ideas from other industries. This method can also be used to find innovative business models, and DAZN is a great example for this. DAZN, also called "the Netflix of sports", borrowed various ideas from the tech industry and the Netflix model. In order to spot these new possibilities, DAZN first had to clearly understand the historical context of business models in sports broadcasting.

In general, it is very important for innovators and entrepreneurs to **understand all business model elements and their relationships** that go into their own but also their main stakeholders' business models. A great tool for this is the Business Model Canvas (BMC). Below, the BMC of Nespresso is depicted. Nespresso is a powerful example of a competitive advantage that is not so much driven by product innovation but more by business model innovation. (More details in regard to the individual elements and how they relate to each other can be read in the Nespresso case in chapter 8.2.3 - Case 20).

Table 3

Business Model Canvas of Nespresso



Note. Dark blue: elements related to machines; turquoise: elements related to the pods; green: potential future elements.

Generally, business model innovation can be achieved through adding new elements, changing existing elements or finding new ways elements are brought together. The BMC should be a living framework and adapted constantly, as **business models need continuous evolving** due to changing customer preferences, market conditions, among other factors. Nespresso nicely illustrates this. When Nespresso set up a compelling value proposition for pods and began selling to households instead of businesses, a non-performing business turned into a billion-dollar business. However, recent sustainability concerns of consumers show that perfect business models that ensure ever-lasting competitive advantages might not exist.

Moreover, it is possible that certain parts of the business model work well while others do not, or that there are certain **trade-offs between different business model elements**. This becomes apparent in the case of DAZN. A major challenge around business model innovation is to deliver an attractive value proposition and at the same time achieve scale through extending the problem definition and proposed solution to wider customer segments. So, while Nespresso has successfully managed the right hand side of the BMC, DAZN delivers a great value proposition but is experiencing a clear trade-off when it comes to scaling and the right part of the canvas.

Recently, **the pandemic of Covid-19** has accelerated the shift towards the digital space and online delivery in almost all industries, particularly in the events industry. Epic Games with its free-to-play game *Fortnite* innovated on the left hand side of the canvas by establishing new partnerships within the music industry to deliver live events (e.g. concerts) online. Sports organizations may **need to reinvent** themselves and redefine

their operating models, partnerships, customer relationships and channels. Overall, the whole sports ecosystem will need to think about how to become more evergreen and create content and value that is not fully attached to live events. Thus, there might be a need for a profound redefinition of business models in sports.

To conclude, this chapter highlights the power of business model innovation (especially in times of crisis) and the importance of a constant adaption of the business model as recent events have shown that external circumstances can rapidly change. Thereby, the BMC can be a powerful tool to identify new, innovative ways of creating, delivering and capturing value.

Unit 4.3 Tools and Methods for Innovating in Sports

In the following pages, a selection of human-centered design tools and methods that can be used for innovating in sports is presented. These tools and methods can serve as a step-by-step guide to unleashing creativity, putting the user at the center of the innovation process and coming up with new innovative solutions to challenges in sports.
The tools and methods are sorted by the different stages of the design thinking process: empathy (purple), problem definition (dark blue), ideation (yellow), prototyping (green), testing (red) and market introduction (pink).

QUAL. RESEARCH METHOD – EMPATHY / TESTING

INTERVIEW

Time:
60-90 minutes

DESCRIPTION

Conversation between a researcher and a user/consumer in a face-to-face situation..

WHEN & WHY

When there is a need for information from users or other stakeholders to learn about a person's mindset, behavior and lifestyle or to get user feedback. Interviews also work well in combination with other methods (e.g. observations).

STEPS

01 Define team and context: Max. 3 research team members (i.e. interviewer, note-taker and photographer). Whenever possible conduct interview in the interviewee's space.

02 Interview preparation: Prepare a set of questions (boad questions vs. specific/challenge-related questions).

03 Write down everything a person says (record the interview if possible). Watch, listen and observe as you conduct the interview.

04 Analyze and compare the information gathered.

QUALITATIVE RESEARCH METHOD - EMPATHY

OBSERVATION

(ETHNOGRAPHIC RESEARCH)

Time:
Weeks-months
Resources:
Ethnographic research

DESCRIPTION

Immersion into the lives of the users and gathering of insights by observing them as they cook, socialize, go to the supermarket or whatever is relevant to your challenge.

WHEN & WHY

At the beginning of the innovation process to see how a user behaves in the real world and to better understand users' habits, routines, behaviors and attitudes. One way can be to spend a day (or several days) shadowing a user.

STEPS

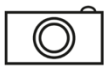
01 Recruit participants and coordinate schedules to follow participants throughout their day/activities.

02 Determine behaviors and routines to observe.

03 Take notes while observing (pictures and audios if possible). Balance asking questions and observing to interpret the observed actions.

04 Organize and synthesize the data by looking for patterns.

QUALITATIVE RESEARCH METHOD - EMPATHY



DIARY STUDY
(CAMERA STUDY)

Time:
1 week-months
Resources:
Diary Study

DESCRIPTION

Users self-report and document their daily activitites, experiences, feelings etc. in diaries (logs) over an extended period of time.

WHEN & WHY

At the beginning of the innovation process to find out about habits, behaviors and activities of users.

STEPS

01 Select and recruit users.

02 Decide (together with users) which materials users should use to document their habits, behaviors and activities (e.g. video recordings, audio notes, writing, photos etc.)

03 Run the Diary Study during a longer period of time.

04 Conduct a debriefing session with the users to ask them for anything that was confusing etc.

05 Synthesize all notes and look for patterns.

QUANTITATIVE RESEARCH METHOD - EMPATHY

SURVEY

Time:
4-24 hours

DESCRIPTION

A survey or questionnaire is mostly designed for statistical analysis. Surveys might not be the best tool for initial user research (qualitative research is more powerful here), but might be useful at later stages to validate information in a quantitative way.

WHEN & WHY

At later stages of the empathy process to validate information regarding a specific topic.

STEPS

01 Define the focus of your analysis, prepare questions and structure them in a clear flow.

02 Choose between online or paper survey (and look for a suitable platform e.g. Google Forms, typeform etc.), set up the survey and test it.

03 Distribute the survey and make sure to get a valid sample size.

04 Aggregate the data (through an appropriate software) and analyze the results.

TOOL - EMPATHY

EMPATHY MAP

Time:
4 - 24 hours
Resources:
Empathy Map Template

DESCRIPTION

The Empathy Map is a tool to understand what the user is thinking, feeling, seeing, hearing and saying.

WHEN & WHY

After defining a user group when more insights are needed to understand user behaviors and attitudes and to have a shared understanding in the team of who the user is.

STEPS

01 Define the scope: Empathy Maps can be created for 1 user or a group of users (to derive a persona).

02 Create Empathy Map: e.g. with post-its or remotely on a tool like Mural or Miro. Traditional empathy maps are split into 4 quadrants: "says", "thinks", "does", "feels".

03 Conduct qualitative research: e.g. interviews, direct observations, diary study etc. Then, read through the research and generate different says, thinks etc.

04 Converge & synthesize: Cluster similar ideas together.

TOOL - EMPATHY

ACTORS MAP

Time:
2-4 hours
Resources:
Actors Map

DESCRIPTION

The Actors Map shows the system and context by outlining the relationships between different stakeholders.

WHEN & WHY

At the beginning of the innovation process to be aware of the different affected parties and their relationships.

STEPS

01 Define the overall focus of the innovation project.

02 List core stakeholders on a flipchart or post-its (e.g. coaches and physical trainers). Then list also the sub groups of stakeholders (e.g. athletes, fans, media).

03 Connect the stakeholders through arrows and indicate how they relate to each other (e.g. how, where and why do they interact?).

04 Analyze the map and think about why, when and how to integrate critical stakeholders along the innovation process.

TOOL - EMPATHY

9 DIMENSIONS

Time:
4-24 hours
Resources:
9 Dimensions

DESCRIPTION

This ethnographic framework helps to give structure to the data gathered from observations and to caputure all the important information.

WHEN & WHY

At the beginning of the innovation process or any moment when ethnographic (observational) research is required.

STEPS

01 Gather all the information collected so far.

02 Write down the physical space of the field research, who the actors are, all the activities performed by the actors, objects that are relevant or used by the actors, particular occasions that surface, the sequence of events, the actors' goals and feelings.

1 Space 2 Actors 3 Activities 4 Objects 5 Acts
6 Events 7 Time 8 Goals 9 Feelings

METHOD – PROBLEM DEFINITION

5 WHYs

Time:
15 -30 minutes
Resources:
Five Whys

DESCRIPTION

The Five Whys is an easy research method that can be used in interviews to get to the core of a user problem by repetitively asking "why" to a user's answer.

WHEN & WHY

When you start to identify complex problems and want to get to the human and emotional root cause of these problems by digging deep into users's beliefs and motivations.

STEPS

01 Ask a broad question about the users' habits or behaviors.

02 Ask "why" to their response five times in a row (or depending on how quick you reach the underlying problem).

03 Write down what you hear and keep in mind that you might not get to the core root until the fourth or fifth why.

TOOL – PROBLEM DEFINITION

Point of View Statements

Time:
1-2 hours
Resources:
POV

DESCRIPTION

Point of view (POV) statements are actionable problem statements used to summarize who a particular user is, the user's need and why the need is important to the user.

WHEN & WHY

After gathering knowledge about the user, his/her needs and additional insights in order to condense your perspective on the problem and define what specific problem needs to be solved before generating ideas.

STEPS

01 Review and combine knowledge and insights gathered during the empathize phase.

02 Articulate (multiple) POVs by inserting your information about your user in the following sentence:
[User . . . (descriptive)] needs [need . . . (verb)] because [insight . . . (compelling)]

03 Refine and rewrite these problem statements over again as more user data is collected along the way.

TOOL – PROBLEM DEFINITION

How Might We

Time:
1-2 hours
Resources:
HMW

DESCRIPTION

By reframing problem statements as How Might We questions, challenges are turned into opportunitites for new solutions.

WHEN & WHY

After conducting extensive user research and formulating insights as problem statements (POV), the reframing into HMW questions helps to start exploring the solution space. HMW questions should not suggest a particular solution but give a frame for innovative thinking.

STEPS

01 Look at the problem statements that you've created. Rephrase them as questions by adding "How might we" at the beginning.

02 The HMW question should address the intended action, the primary user and desired effect:
How might we [intended action] for [primary user], so that [desired outcome]?

03 Make sure that the How Might We questions are formulated broad enough to ideate for a wide range of sulutions but narrow enough to let you know where to start the brainstorm.

METHOD – IDEA GENERATION

Brainstorming

(BRAINDUMPING, BRAINWRITING, BRAINWALKING, AOKI METHOD)

Time: 30-60 minutes

Resources: Brainstorm techniques

DESCRIPTION

Brainstorms are used to tap into knowledge and creativity and generate a wide range of ideas to a problem.

RULES

- No judgment - encourage crazy and impossible ideas
- Go for quantity (e.g. 100 ideas in 60min)
- Be visual (sketching helps to communicate ideas)

STEPS

01 Prepare materials (post-its, whiteboard etc.) and set brainstorm focus and rules (see above). Write down your How Might We question, so everyone can see it.

02 Each participant brainstorms solutions individually (e.g. 10min) in written form (to avoid groupthink). Set time constraint (e.g. 10min) as this fosters creativity.

03 Come together as a team and share ideas with no criticism and commentary. The team adds new ideas, building on the ideas of others.

04 You should not only brainstorm in your innovation team but also together with your users and stakeholders. Brainstorm on multiple days to borrow ideas from unrelated fields.

05 Combine similar ideas, filter the ideas with the most potential and develop them.

TOOL – IDEA GENERATION

What If

(ALTERNATIVE: WORST POSSIBLE IDEA)

Time: 1-2hours

Resources: List of What If questions

DESCRIPTION

This brainstorming technique helps to find new views and perspectives and to encourage crazy and silly ideas by thinking in weird, fresh and unusual directions.

WHEN & WHY

After a first brainstorming session to expand average ideas into excellent ones. Asking "What If" can turn everything on its head. Plus, "What if" is a good tool to make people feel more confident to share ideas that appear crazy or stupid.

EXAMPLES

- What if... it made noise?
- What if ... it was a candy bar?
- What if.... it had an attitude?
- What if ... it was edible?
- What if ... you gave it to your grandmother?
- What if ... it bounced?
- What if ... you slept on it?

"What if furniture buyers picked up the components and assemble the furniture by themselves at their home?" IKEA did it.

"What if we give plane tickets for free?" Ryanair did it.

TOOL – IDEA SELECTION

NUUF

Time: 1-2 hours

DESCRIPTION

NUUF is a tool that helps to select ideas and pick the most promising ones. NUUF stands for "**N**ovel", "**U**seful for user", "**U**seful for company" and "**F**easible". Each idea is evaluated in terms of its novelty, usefulness and feasibility.

WHEN & WHY

After generating lots of ideas, ideas must be sorted and the best ones selected. Here, NUUF helps to evaluate ideas based on the innovation success criteria.

STEPS

01 Prepare a table with your ideas in rows and the NUUF criteria in columns.

02 For novelty, usefulness for users, usefulness for the company and feasibility give each idea a score from 1-10 (1=low, 10=high) This leads to 4 scores per idea.

03 Decide if a certain criterium should be given more weight (depending on your strategic focus). If yes, calculate the weighted scores.

04 Add up the scores horizontally and pick the ideas with the highest scores.

TOOL – IDEA SELECTION

Dot Voting

Time: 1-2 hours

DESCRIPTION

Dot voting is a way of prioritizing different ideas in a collaborative way by using group voting.

WHEN & WHY

When there are more ideas than can be developed (e.g. to prioritize the "Wow" ideas - see How Now Wow Matrix). This technique allows for a consensus on the most popular ideas.

STEPS

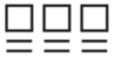
01 Select a group of people, if possible include other stakeholders besides the innovation team (4-20 people).

02 List the ideas you want to vote for and explain them if needed.

03 Ask participants to vote on their favourite ideas by using sticky dots. Everyone has a limited number of dots and people should assign more dots to the idea they like most.

04 Count votes and check if the most popular ideas can be taken to the next level (prototyping).

TOOL – CONCEPTUALIZING/ PROTOTYPING



Storyboard

Time:
2-24 hours

Resources:
Template

DESCRIPTION

The Storyboard is a tool derived from the cinema. It communicates an activity, experience, service or idea step for step and in visual sketches, mostly from a user perspective.

WHEN & WHY

After the ideation phase in order to make your idea/solution visual for internal purposes but also to get feedback on the specific stages of the story from the users.

STEPS

01 Decide on the message and global storyline you want to communicate.

02 Think of the steps of the story and how to display them in sketches/images.

03 Create quick sketches first and then start refining them. Add short text explanations below the sketches where needed.

04 Go over the story with someone who is unfamiliar with it and ask for feedback. Then, present it to users and stakeholders and document their feedback.

TOOL – PROTOTYPING / DESIGNING HYPOTHESES

Test Card

Time:
30-60 minutes

Resources:
Testing Card Template

DESCRIPTION

Test Card is a tool to structure experiments. It helps to clearly define hypotheses and underlying assumptions of the proposed solution.

WHEN & WHY

Before going into prototyping and testing, Test Cards help to structure the thinking around what to learn, how to run an experiment, what type of prototype is used, what KPIs are expected and how to measure them. Test Cards test one hypothesis at a time and prioritize most important factors.

STEPS

01 Hypothesis: Select one hypothesis among the many you may have and describe it: **"We believe that . . . "**

02 Describe the way how to test the hypothesis: **"To verify that we will . . ."**

03 State the metric you will use to validate your hypothesis: **"And measure . . . "**

04 Define criteria for the hypothesis to be accepted: **"We are right if . . ."**

05 Build an appropriate prototype and test the hypothesis.

METHOD – PROTOTYPING (LOW-FIDELITY)

Wizard of Oz

Time:
1-2 days

Resources:
Zappos Example

DESCRIPTION

Wizard of Oz testing is a method in which a participant interacts with a system that seems to exist from the outside/front-end but does actually not yet exist in its infrastructure/backend. The "fake prototype" is actually operated by an unseen person who acts behind-the-scenes.

WHEN & WHY

When the solution is composed of a complex system (e.g. different processes, interactions etc.) to test underlying assumptions quickly before programming and investing much time and money.

STEPS

01 Create the "fake protoype" (e.g. front-end web development "Smoke Test", video, experiment etc.).

02 Recruit participants for the test, organize the setting and think through the different steps.

03 Assign a wizard who observes the user's actions and makes the system react to those actions.

04 Take notes of what works and what doesn't and ask participants for their feedback afterwards.

METHOD – PROTOTYPING (LOW-FIDELITY)

Paper Prototype

(PINOCCHIO PROTOTYPE)

Time:
2-4 hours

Resources:
Paper Prot. Example

DESCRIPTION

Paper or pinocchio prototyping (non-functional, "lifeless" version of the product e.g. block of wood) is a quick and cheap way to test hypotheses, get feedback and gain insights.

WHEN & WHY

In the initial stages of the prototyping phase to test basic ideas of your solution.

STEPS

01 Determine what should be tested (e.g. content, form, structure, functionality etc.) – see Test Card.

02 Develop a paper (or other materials) version of the solution that allows to test the defined hypothesis.

03 Test the prototype/hypothesis with real users. Do not guide users too much.

04 Take notes of what works and what needs to be changed. Write down what users say and how they react.

TOOL – IDEA GENERATION

Random Word

(Random Links)

Time:
1 hour

Resources:
Online template

DESCRIPTION

Random word is a creative technique that uses random words (or alternatively objects) to generate new ideas. It allows to address a challenge from a different direction.

WHEN & WHY

After having done initial brainstorming, random world helps to think beyond comfort zones and to explore completely new ideas. It provokes new associations and uncovers new connections.

STEPS

01 Select a random word (e.g. online word generator, books, tweets etc.).

02 Think of as many things as you can that are associated with the random word (e.g. think of its characteristics – How is it used? What is its function? What is the opposite? etc.) and write them down on post-its.

03 Think of connections between your random word and your problem, using the characteristics and ideas from the previous step. Write down your ideas.

METHOD – IDEA GENERATION

Co-Creation Workshop

Time:
2-4 hours

Resources:
Key Principles

DESCRIPTION

A co-creation workshop is a great way to include different stakeholders in the innovation process in order to get feedback on ideas or collectively generate new ideas.

WHEN & WHY

After first ideation sessions in the innovation team, a co-creation workshop aims to share ideas with stakeholders. First, this inclusion and co-creation leads to a higher probability of innovation adoption by the different stakeholders and second, it gives valuable insights into the solution space by generating new ideas together.

STEPS

01 Identify who to invite for the co-creation session (e.g. users, partners, regulators etc.).

02 Organize the co-creation workshop well in advance (arrange a space and necessary materials).

03 Make the most out of the session with brainstorming sessions, role plays or other activities to engage the group around the problem you are trying to solve. Make sure you treat participants as co-designers and not interview subjects.

METHOD – PROTOTYPING (LOW-FIDELITY)

Video Prototyping

Time:
1 day-2 weeks

Resources:
Dropbox
Example

DESCRIPTION

Video prototyping is a simple way to show new ideas, designs, products etc. that might be difficult or time consuming to prototype otherwise.

WHEN & WHY

When a complex idea needs to be quickly tested in order to get first feedback and see whether to get traction.

STEPS

01 Split the solution/concept into different steps that need to be shown and explained.

02 Write a script that explains all the steps of the solution and create a storyboard based on the script (see Storyboard).

03 Organize everything for filming (materials, camera etc.) and come up with a plan and schedule.

04 Film and edit the clips into a consistent story, add special graphics/effects.

05 Show the video to test users and collect first feedback.

METHOD – PROTOTYPING (HIGH-FIDELITY)

Clickable Prototype

Time:
1 day – 1 week

Resources:
figma
Adobe XD
Sketch
Zapier

DESCRIPTION

A clickable prototype is a front-end website or application that looks like and may work like the finished product. It also simulates the aesthetics of a proposed design.

WHEN & WHY

Once the basic ideas and assumptions behind a solution have been tested with low-fidelity prototypes. Clickable prototypes check if the design behaves as intended and collect user inputs (e.g. sign-ups, meta data etc.).

STEPS

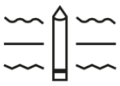
01 Build the structure of the website/app by creating wireframes (simplified outlines of the different elements on a website/app).

02 Create a design guide - define the look and feel of buttons, screens and animations.

03 Build the prototype by programming or by using a special software (see resources)

04 Test the prototype with several users and record the test if possible. Analyze the results and iterate on the prototype.

TOOL – TESTING



Learning Card

Time:
30-60 minutes

Resources:
Learning Card Template

DESCRIPTION

Learning Card is a tool to catch the learnings from the experiments.

WHEN & WHY

When testing your prototypes in order to capture and process user feedback in a structured way. Learning cards serve as starting point for the next iteration, whether this is the adaption of the prototype, redefinition of the problem or new experiments to test additional features.

STEPS

01 Write down your hypothesis: "**We believed that . . .**"

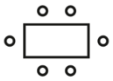
02 Write down your observations during the testing: **"We observed that . . ."**

03 Declare learnings and insights, derived from the observations: **"From that we learned that . . ."**

04 State decisions and actions: **"Therefore, we will . . ."**

05 Go on to the next iteration/experiment. Define what to test (use testing cards), set up the experiment, test and write down your findings in a learning card again.

METHOD – TESTING



Focus Group

(ALTERNATIVE: INDIVIDUAL INTERVIEWS)

Time:
4-24 hours

Resources:
Focus Groups

DESCRIPTION

Focus Groups are group discussions of ideally 8-10 people, led by a moderator.

WHEN & WHY

Focus Groups can either be used to test a developed solution or at the beginning of the innovation process to better understand users. When used in the testing phase, the goal of focus groups is to get different views and perceptions on a solution.

STEPS

01 Select a moderator who plans the sessions, writes the questions and prepares the agenda.

02 Recruit participants, arrange a room and send out an invite to the participants with the discussion questions.

03 The moderator leads the session and makes sure that everyone has the opportunity to contribute. Record the conversation.

04 Analyze the session and summarize the findings.

METHOD – TESTING

Co-Discovery

Time:
2 hours

DESCRIPTION

Two participants test a solution together and help each other as they would naturally. They are encouraged to think out loud while exploring the solution.

WHEN & WHY

In the testing phase, this can be done with low-fidelity as well as high-fidelity prototypes. Having two participants testing the solution, allows to explore different viewpoints.

STEPS

01 Select participants and prepare the testing session (e.g. set up video recording if possible, prepare prototype, design user tasks etc.).

02 Explain users that the idea is to test the solution and that the thought process is crucial so they should explain what they are doing and why.

03 Take notes of your observations.

04 Analyze the video recordings afterwards.

TOOL – IMPLEMENTING

Business Model Canvas

Time:
1-2 hours

Resources:
Nespresso Example
Template

DESCRIPTION

The business model canvas is a great tool to think through the key aspects of a business or service. It asks key questions like what's the revenue streams, key partners and vital resources etc.

WHEN & WHY

At the end of the innovation process when implementing a new solution. However, the BMC might be used several times during the process as elements tend to change as you redefine your idea towards implementing it.

STEPS

01 Print out or download a business model canvas (see template).

02 Fill out the different sections of the BMC together with your team members. Probably you can't fill in everything and will need to pause to get more information.

03 Post the BMC in your workspace. The idea is to redefine it constantly.

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